Commentary

The Journey Toward Quality and Patient Safety in Laboratory Medicine Continues

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Errors in laboratory medicine have a completely different meaning today than they had a century ago. At that time, the term referred to defects in the analytical performance of the test itself, the so-called analytical phase.[1] A dramatic change in addressing the issue of errors in laboratory medicine started at the end of the 1990s, when a body of evidence has been accumulated demonstrating vulnerability in the pre- and postanalytical phases.[2-3]

The study by Abdollahi and co-workers confirms that more than 50% of errors are related to preanalytical steps, with 23.2% of errors in the intraanalytical and 11.7% in the postanalytical phase, respectively.[4] In addition, this study provides further evidence that the frequency of errors in inpatients is significantly higher than in outpatients due to several problems:

a. Not always standard operating procedures (SOP) for test request, sample collection, handling, and transportation are followed by healthcare personnel who are not under the direct control of the laboratory;
b. The complexity of some preanalytical steps (namely blood drawing) is higher for inpatients, due to age and disease issues;
c. The trend toward consolidation and commoditization of laboratory services is decreasing the quality of communication between clinicians and laboratory professionals.

Access this article online

Quick Response Code:

Website: www.najms.org

DOI: 10.4103/1947-2714.132942

The "take-home" message is the need to consensually develop and adopt SOP for safely performing patient identification and preparation, test requesting, sample collection and handling and that harmonization initiatives should be performed to improve procedures and processes at the laboratory–clinical interface. It seems likely that only a small proportion of laboratory errors results in actual patient harm and adverse events thanks to the several barriers and defensive layers present between the release of laboratory information, the decision-making process and, ultimately, the action on the patient. However, from a risk management viewpoint, even the great majority of laboratory errors with little direct impact on patient care provide important learning opportunities. In fact, any error, regardless of its apparent triviality, might indicate weaknesses in policies and procedures that may not lead to adverse events in their particular context, but might cause the patient harm in slightly different circumstances. An important step in the journey toward the reduction of the error rates in laboratory medicine is the implementation of a valuable quality system according to the International Standard ISO 15189:2012 and of reliable quality indicators (QIs) covering all steps of the intra- and extra-analytical phases of the total testing process (TTP).

It has been demonstrated that performance and outcome measures improve the quality of patient care and, in particular, QIs represent valuable tools for quantifying the quality of selected aspects of care by comparing it against a defined criterion. The measurement and monitoring of QIs in laboratory medicine serve many purposes as they make possible to:

a. Document the quality of the service provided;
b. Improve performance and patient safety;
c. Make comparison (benchmarking) over time between laboratories;

d. Make judgments and set priorities (corrective actions to be performed); and
e. Support accountability, quality improvement and accreditation.

Recently a set of QIs has been consensually defined to allow clinical laboratories to measure and improve the quality of all steps of the TTP. The journey toward quality and patient safety continues.

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How to cite this article: Plebani M. The journey toward quality and patient safety in laboratory medicine continues. North Am J Med Sci 2014;6:229-30.

Source of Support: Nil. **Conflict of Interest:** None declared.